

REMARKS

Applicant requests favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

The specification has been amended to place the subject application in better form. No new matter has been added by these changes.

Claims 26-28 and 31-38 are presented for consideration. Claims 26, 31 and 36-38 are independent. Claims 1, 12, 25, 29 and 30 have been canceled without prejudice or disclaimer. Claims 26-28 have been amended to clarify features of the present invention, while claims 36-38 have been added to recite additional features of the subject invention. Support for these changes and claims can be found in the original application, as filed. Therefore, no new matter has been added.

Claims 31-35, withdrawn from consideration, have been retained in this application to preserve Applicant's rights. Applicant requests that the Examiner contact his undersigned representative should it be necessary to cancel these claims in order to expedite allowance of this application.

Applicant requests favorable reconsideration and withdrawal of the objection and rejections set forth in the above-noted Office Action.

Claims 1 and 12 were objected to on formal grounds. Also, claims 1, 12, 25, 29 and 30 were rejected under 35 U.S.C. § 112, first paragraph. The Examiner asserted that the subject matter of these claims was not adequately described in the subject application. This objection and this rejection are respectfully traversed. Nevertheless, these claims having been canceled,

such objection and rejection have become moot and should be withdrawn. Such favorable indication is requested.

Turning now to the art rejections, claims 1 and 25 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,208,406 to Nakashima in view of U.S. Patent No. 6,066,921 to Nakamura et al. Claims 12 and 26 were rejected under 35 U.S.C. § 103 as being unpatentable over the Nakashima patent in view of U.S. Patent No. 5,600,211 to Luger. Claim 27 was rejected under 35 U.S.C. § 103 based on the art combination of the Nakashima and Luger patents, and further in view of U.S. Patent No. 5,949,198 to Nakamura et al. Claim 28 was rejected under 35 U.S.C. § 103 as being unpatentable the combination of the Nakashima and Luger patents and further in view of the Nakamura et al. '921 patent.

In one aspect of the invention, independent claim 26 recites an exposure method using a discharge lamp as a light source. The method includes steps of recognizing the type of discharge lamp and automatically setting at least one of optical conditions, power source conditions and cooling conditions based upon the recognition made. The recognizing step is performed based on detecting a pressure of a gas which is supplied in a passageway provided with a holder for mounting the discharge lamp.

By such an arrangement, the present invention makes it possible to discriminate the type of lamp and/or whether the discharge lamp has been mounted in the holder under a high temperature environment with high reliability. In the present invention, mechanisms can be provided for detecting pressure and a passageway, a sensor, and a shape of the discharge lamp

can be configured and determined on the basis of the detected pressure using the mechanisms. Accordingly, the present invention is particularly effective in a high temperature environment.

Applicant submits that the cited does not teach or suggest such features of the present invention as recited in independent claim 26.

The Nakashima patent discloses an exposure apparatus and a method in which a discharge lamp is utilized as an exposure light source. The Nakamura et al. '198 patent discloses a light-emission controlling apparatus, and the Nakamura et al. '921 patent discloses a discharge lamp lighting device.

Applicant submits, however, that in the cited art, the light emission controlling apparatus and the discharge lamp lighting device do not discharge in cases in which a discharge lamp is not mounted in the apparatus. Rather, the discharge lamp is previously attached as an initial condition for discharging, and the lamp must be attached for discharge. For example, in Figures 2 and 6 of the Nakamura '198 patent, which are flow diagrams showing operations of the light-emission controlling apparatus, there is no step for recognizing whether the discharge lamp has been mounted in the apparatus. In a case in which the discharge lamp is not mounted in the apparatus, the device in that patent does not take into consideration anything regarding processing for inhibiting firing of the discharge lamp and/or issuing a warning.

The Luger patent also shows a gas discharge lamp. Figure 1 of that patent shows a control system for the gas discharge lamp. Discharge control is performed by a fuzzy controller. Membership functions are defined as shown by Figures 1A to 1C in that patent. In addition,

the fuzzy controller 7 generates setting values for the inverter 3 based upon the membership functions and performs control for the gas discharge lamp.

For the reasons noted above, Applicant submits that none of the citations teaches or suggests performing recognition for a discharge lamp based on a detected pressure, in the manner of the present invention recited in independent claim 26, for example.

For the foregoing reasons, Applicant submits that the present invention, as recited in independent claim 26, is patentably defined over the cited art, whether that art is taken individually or in combination.

For reasons similar to those noted above with respect to independent claim 26, Applicant submits that new independent claims 36-38 patentably define features of the device manufacturing method using an exposure apparatus and the discharge lamp used as a light source of an exposure apparatus of the present invention. Accordingly, independent claims 36-38 likewise should be deemed allowable.

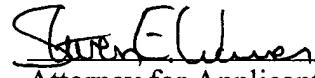
For the reasons noted above, Applicant submits that the present invention, as recited in independent claims 26, and 36-38, is patentably defined over the cited art.

Dependent claims 27 and 28 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in independent claim 26. Further individual consideration of these dependent claims is requested.

Applicant submits that the instant application is in condition for allowance. Favorable reconsideration, withdrawal of the rejections set forth in the above-noted Office Action and an early notice of allowance are requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,



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